

6.0 Plan of Action and Milestones

To advance the goals and management objectives listed in Chapter 4.0, the following implementation plan should be followed. This 10 year plan has recommended 3 year, 6 year, and 10 year milestones.

10 Year Plan for BMP Implementation (2018 - 2028)							
Recommendations	Indicators	Milestones			Funding Sources	Implementation	Impact <i>P</i> reduction <i>lbs/yr P</i>
		0-3 year	3-6 years	6-10 years			
1) Eliminate excessive soil loss from gully erosion.							<i>Boot Lake: 18 lbs Long Lake: 57 lbs Becker Lake: 64 lbs Watershed: 139 lbs</i>
a) Concentrated flow path seedings.	# of acres seeded	2	2	-	SWRM, EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
b) Installation of grassed waterways in priority areas	# of linear feet of grassed waterways installed	3000	4000	2500	SWRM, EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
c) Checks to make sure installed practices are working and being maintained.	# of cropland acres checked	100	100	100	LWCD/SWCD	LWCD/SWCD	
2) Reduce phosphorus loading from croplands through nutrient management plan implementation							<i>Round Lake: 3 lbs Boot Lake: 14 lbs Long Lake: 27 lbs Becker Lake: 64 lbs Watershed: 139 lbs</i>
a) Bring remaining cropland into a certified NMP	# acres signed up for NMP	40	-	-	SWRM, EQIP	LWCD/SWCD, NRCS	
b) Plan Reviews	# acres in plans reviewed for compliance	490[1]	490	490	LWCD/SWCD	LWCD/SWCD	
c) Checks to make sure management plans are followed 80% of the time (goal: no more than 20% changes due extenuating circumstances)	# of farms checked	3	3	3	LWCD/SWCD	LWCD/SWCD	
3) Reduce phosphorus loading from edge of fields and livestock sites by maintaining compliance with NR 151 standards							<i>Round Lake: 6.5 lbs Boot Lake: 3 lbs Long Lake: 21 lbs Becker Lake: 168 lbs Watershed: 198.5 lbs</i>
a) Retrofit feedlots with necessary runoff control structures	# of feedlots addressed	1	N/A	N/A	SWRM, EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
b) Maintaining tillage setbacks from surface waters in accordance with NR151.03	# linear feet	3500	3500	3500	N/A	LWCD/SWCD	
c) Install conservation buffers along critical areas and wetlands	# acres	0	5	5	CREP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
4) Improve soil health to reduce loss of phosphorus from agricultural fields							<i>Round Lake: 21 lbs Boot Lake: 66 lbs Long Lake: 252 lbs Becker Lake: 117 lbs Watershed: 456 lbs*</i>
a) Increase acreage of conservation tillage in watershed. - 50% of watershed adopting a reduced tillage strategy by 2023. - 100% of watershed adopting conservation tillage by 2028 at minimum of 30% residue management.	# acres cropland with conservation practices applied	100 acres with 30%;	130 acres with > 30%, 25% acres with > 60% residue	130 acres with > 30% residue, 50% of acres with > 60% residue	SWRM, EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	* 20 year goal to have 100% of remaining cropland in No Till Management.
b) Implement use of cover crops to prevent soil loss during critical period.	# acres cropland with cover crops	50	150	100	SWRM, EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
c) Establish monitoring program to ensure practices are effective.	# of fields checked	10	10	10	LWCD/SWCD	LWCD/SWCD	

d) Install riparian buffers along intermittent streams and wetlands.	# acres of buffer in the watershed	3	5	10	CREP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
e) Implement practices described in (1) a-c.	See indicators listed in recommendations (1) a-c.	N/A	N/A	N/A	SWRM, EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
5) Install BMPs that reduce phosphorous loss and control surface runoff during significant rain events, as well as reduce flooding.							<i>Unknown</i>
a) Install sediment retention structures (WASCOBs, treatment wetlands) to treat and/or reduce water flow from agriculture runoff.	# of structures installed	1	2	2	SWRM, EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
b) Increase soil infiltration by implementing practices under 4.a	# acres cropland with conservation practices applied	100 acres with 30%;	130 acres with > 30%, 25% acres with > 60% residue	130 acres with > 30% residue, 50% of acres with > 60% residue	SWRM, EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
6) Address non-agricultural sources of phosphorus							<i>Round Lake: 3 lbs Boot Lake: N/A Long Lake: 33 lbs Becker Lake: 6 lbs Watershed: 42 lbs</i>
a) Promote shoreline restoration for riparian property owners	# linear feet	500	1,500	2,500	LPG, HL, GLRI, SWRM	LWCD, SWCD, LLAA, BCC	
b) Promote Healthy Lakes Program	# of properties with minimum (1) practice installed	10	20	30	HL, LWCD, LLAA, BCC	LWCD, SWCD, LLAA, BCC	
b) Improve POWTs efficiencies and address failing systems immediately	POWTS inspected, failing systems are corrected	all	all	all	P&Z	P&Z	
c) Install urban stormwater BMPs that reduce runoff from roads and parking lots	# of practices installed	1	1	1	TRM, LPG, GLRI, NP, PT	LWCD/SWCD	
7) Reducing impacts of tile drainage							<i>Round Lake: 54 lbs Boot Lake: TBD Long Lake: TBD Becker L.:TBD Watershed: TBD</i>
a) Redirect tiles that artificially increase watershed size (Round Lake)	# of tile redirections	1	-	-	GLRI, LPG, NP	LWCD/SWCD	
b) Inventory and inspect tile systems for problems (blow outs)	# acres inventoried	500	-	-	LWCD/SWCD	LWCD/SWCD	
c) Correct tile blow outs	# of tile blow outs treated	-	all	-	GLRI, LPG, NP	LWCD/SWCD, NRCS, LLAA, BCC, other NPs	
d) Address nutrient loss from tile drainage	# of tile outlets treated	-	TBA	TBA	GLRI, LPG, NP	LWCD/SWCD, NRCS, LLAA, BCC, other NPs	
9) Alternative practices to reduce phosphorus loads from the watershed							<i>Unknown</i>
a) Use of new technologies and innovative practices to reduce phosphorus and sediment loading from cropland	# of sites where new technologies have been used and assessed for effectiveness and feasibility	0	1	1	EQIP, TRM, LPG, CSP, GLRI, NP	LWCD/SWCD, NRCS, LLAA, BCC, other NPs	
b) Remove land from production, prioritizing critical acres. Continually manage retired lands for continued P removal from landscape	# acres of retired cropland	ongoing	ongoing	ongoing	EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS	
c) Remediate degraded wetlands using innovative practices targeting legacy phosphorus.	# of acres of wetland	0	0	40	EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS, LLAA, BCC	

d) Promote less intensive agriculture, such as grazing, low till crop rotations, and low input crops.	# of acres transitioned	ongoing	ongoing	ongoing	EQIP, TRM, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS, LLAA, BCC, other NPs	
e) Eliminate application of manure produced outside of the watershed.	# gallons/tons of applied manure reduced	ongoing	ongoing	ongoing	EQIP, LPG, CSP, GLRI, NP, PT	LWCD/SWCD, NRCS, LLAA, BCC, other NPs	
10) Address internal loading							<i>Lake: 103 lbs Boot Lake Long Lake: 329 lbs Becker Lake: 299 lbs Watershed: 772 lbs</i>
a) Strategic Alum Treatment of Lakes	# of lakes treated [2]	1	1	1	BCC, DNR, GLRI, ot	BCC, LWCD/SWCD, d	
b) Monitor effectiveness of Alum Treatment	# of lakes monitored after treatm	1	2	3	BCC, DNR, GLRI, ot	BCC, LWCD/SWCD, d	
c) Maintain reductions of external loading	See indicators listed in recommendations 1-9	N/A	N/A	N/A	NA	NA	

[1] Acreage may decrease as land is taken out of production.

[2] It is recommended that priority be given to the lake that has documented significant external loading reductions. Round Lake is a likely candidate for first Alum treatment due size of watershed, relatively smaller acreage of cropland, and tile redirection.